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FOREWORD

The purpose of this report is to answer some of the questions about the effect of current Soviet economic plans on the disposition of construction resources and to help clarify some of the questions about the nature of these economic plans. Adjustments in these plans indicate that within a relatively short period the preponderance of long-term industrial construction projects in the USSR may be completed. A survey of selected developments in the Fifth Five Year Plan (1951-55), with a focus on known large-scale industrial projects, was designed to test this hypothesis.

Continuation of development of new industrial centers, construction of new plants, and major expansions of existing plants are the main concern of this report. The commitments for the completion of heavy industrial projects are much firmer than those for agricultural projects because the latter may be partially exploited, even if they have not been completed.

The survey of outstanding construction projects varies in completeness from industry to industry. For example, the coverage for construction of coal mines, blast furnaces, and hydroelectric power plants is nearly complete, whereas the coverage for construction in the chemical industry is noticeably less complete. What is shown in this report is the status of known construction projects, which may serve as the basis for some broad conclusions.

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CIA/SC/RR 123 (ORR Project 47, 554)

THE SIGNIFICANCE OF RECENT CHANGES IN THE PROGRAM FOR THE SOVIET CONSTRUCTION INDUSTRY*

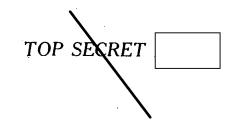
Summary

Construction for heavy industry in 1951-54 was characterized by the continuation of projects already started, the initiation of a relatively small number of new large-scale projects, and the expansion of existing plants. Plans of 1955 call for the completion of a maximum number of projects in 1955 and a restriction of the initiation of new projects. Although shifts in economic policy have had an effect on the disposition of Soviet construction resources, constant efforts have been made to advance the development of heavy industry.

In the period from 1951 to Stalin's death, work continued on projects carried over from the Fourth Five Year Plan (1946-50), but very few new long-range construction projects were observed. In the eastern areas of the USSR, cutbacks and deferments of individual projects reflected the strong regional effect of the Korean War. The Fifth Five Year Plan, which was announced in August 1952, called for a continued high share of investment in heavy industry but specified very few new large industrial projects.

The changes in the construction program which were made after Stalin's death did not affect heavy industrial construction materially, although the suspension of a significant number of projects was observed in widely scattered areas of the USSR. Most of the major suspensions were of long-range projects for transportation and agriculture. Later in 1953 the important role of the construction industry

^{*} The estimates and conclusions contained in this report represent the best judgment of ORR as of 1 September 1955.



in the plans for a rapid expansion of the consumer sector* was stated explicitly. The expressed need to continue to develop heavy industry led to an ambitious program for the building up of heavy industry and the consumer-oriented sector on an approximately equal basis. A serious effort by the construction industry to carry out this program is indicated by preparations in 1953 and implementation in most of 1954. The underfulfillment of investment plans for certain elements of heavy industry and all of the consumer-oriented sector can be attributed largely to shortcomings in construction work. The peak carryover of unfinished construction from 1954 largely reflected the ambitiousness of the plans of the "new course," which caused a wide dispersal of construction resources. Lags in construction schedules for several important branches of heavy industry have been admitted by the Soviet government.

The extent of the "new course" apparently had a limiting effect on the number of new long-term industrial projects. An important exception is the electric power industry, where at least eight large hydroelectric projects have been started since 1953.

At the present time, construction is concentrated on nearly completed heavy industrial projects and on the requirements of the new agricultural areas. Housing construction in 1955, as in most of the postwar years, will absorb only about 25 percent of Soviet construction resources. Successful completion of the 1955 construction program will be easier to achieve because the most important elements of the Soviet construction industry have been integrated under a new deputy premier.

One result of these efforts will be to ensure the completion of most known long-range industrial construction projects in the USSR by the end of 1955. A survey of industrial construction projects



^{*} The consumer sector is generally considered to include the light and food industries, agriculture, and internal trade. In this report, housing construction is included in discussions of the consumer sector.



reveals that many were completed in 1954, that an additional large number will have been completed by the end of 1955, and that few projects will extend far beyond 1955. The major exception is hydroelectric projects, some of which are in the early stages of construction and will not be completed for several years.

Although it is possible to predict the completion of most known industrial projects, the USSR is maintaining its policy of restricting the initiation of new projects. Construction resources are concentrated on a limited number of projects so that those which are started may be completed as soon as possible. If the restriction on the number of new projects should prove severe and of long duration, the volume of Soviet industrial construction should dip to an unusually low level. Even if this restriction were moderate and of 1 year's duration, the amount of unfinished construction should decline considerably in comparison with the recent years.

- I. Shifts in Economic Policy During the Fifth Five Year Plan (1951-55).
 - A. <u>Initial Goals (1951 March 1953).</u>

The guide lines for industrial construction work in the current Five Year Plan (1951-55) were not revealed until the plan was announced in mid-1952. 1/* In 1950 and early 1951, delays and adjustments in individual projects in the eastern areas of the USSR were observed which probably reflected the strong regional effect of the Korean War. 2/ During the period immediately before Stalin's death, most of the known industrial construction projects under way were those that had been carried over from the Fourth Five Year Plan (1946-50). Of the few new projects

^{*} For serially numbered source references, see the Appendix.



that were started, the most important were the large hydroelectric plants near Kuybyshev, Stalingrad, Kakhovka, and Novosibirsk. $\frac{3}{2}$

The announced Five Year Plan goals for industrial construction were reflected by planned capital investment* in heavy industry. Investment in this sector was to be 100 percent greater in 1951-55 than in the preceding 5 years, 4/ thus continuing to absorb about 50 percent of total state capital investment. 5/

Despite this high level of investment, relatively few new large-scale industrial projects were specified in the Fifth Five Year Plan. Construction of 4 large hydroelectric projects and "a number of others" was scheduled to get under way in this period, in addition to the 4 that had already been started. In other industries, new construction was apparently to be in line with a program of selective expansion. Completion of most of these projects by 1955 was planned.

- B. Emphasis on the Consumer Sector Following the Death of Stalin.
 - 1. Suspension of Projects.

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construction	project	ts were	suspende	ed or cu	rtailed	in widely	scattered
areas of the			<u> </u>		•	<u> </u>	
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Some of the projects suspended or curtailed were among the largest under way in the USSR. All of these projects

^{*} In the USSR, expenditures for construction have constituted about 60 percent of total state capital investment. Therefore, data on capital investment are frequently cited in this report to indicate trends in construction.



were in the early stages of construction, and it is estimated that no more than 10 percent of the monetary outlays for any of the projects had been expended. 6/

The most important changes were made in construction for transportation and agriculture, in which a number of long-range projects were suspended (the Mys Lazarevka tunnel, 7/ the branch rail line in Primorskiy Kray, 8/ the Kungrad-Gur'yev railroad line, 9/ the Main Turkmen Canal, 10/ the South Ukrainian - North Crimean Canal, 11/ the Volga-Ural Canal, 12/ and the Kura-Araks reclamation project 13/). Heavy industrial construction was not greatly affected by these changes: only one project was suspended.

It is estimated that the value of projects known to have been, or strongly believed to have been, suspended between March and August 1953 was roughly 18 billion rubles. 14/ It is difficult to be precise in relating this value to the total value of construction work in the USSR because some but not all of the projects would have been in progress during 1953-57 and because at least one of these projects has already been resumed. 15/

2. Announced Objectives.

The important role of the construction industry was stated explicitly later in 1953 in the series of decrees calling for a rapid expansion of the consumer sector by 1956. Sharp increases were called for in investment in the light and food industries, agriculture, and trade. For example, the share of these 3 spheres of the economy in total capital investment (exclusive of capital repairs) was to rise from 25 percent in 1952 to 32 percent in 1954. 16/ Housing construction was to be expanded at least until 1955, according to statements of Soviet leaders, 17/ although a specific plan was not revealed. Meanwhile, construction for heavy industry was not to be retarded, as indicated by Soviet statements 18/ and by the 12.5-percent increase in capital investments in 1954, which placed the share of heavy industry at about 54 percent of state investments. 19/



a. Housing.

Statements on housing construction by Soviet leaders were vague but contained suggestions that the rate would be stepped up at least until 1955. 20/ The 1953 Plan called for a 25-percent increase in investment in housing over the 1952 level. 21/ In 1954 the Plan called for a 31-percent increase in housing investment. 22/

b. Agriculture.

Thousands of rural buildings were to be erected in 1954-56, according to the initial decree on the development of agriculture. 23/ Subsequent decrees called for the opening in 1954-56 of new lands for cultivation -- an area of 28 million to 30 million hectares, according to the most recent plan. 24/ The increased construction requirements for the state agriculture program are reflected by a rise of about 80 percent in capital investment allocations in 1954, 25/

c. Light and Food Industries.

The program for the Ministry of Industrial Consumer Goods specified the start of construction of 100 new factories, continued construction of 400 new enterprises, and the modernization and expansion of 800 enterprises. 26/ In addition, 1,500 food processing factories were scheduled to be completed for the Ministry of the Food Industry by the end of 1956. Of these, 450 "large food factories" were already under construction in 1954. 27/

Total capital investment in 1954-55 for these 2 industries was to be about 80 percent greater than in 1952-53. 28/ Investment in 1954 was to be over 14 billion rubles, an increase of more than 80 percent over the 1953 level. 29/

d. Trade.

An impressive total of stores, dining establishments, and other structures was to be built in 1954-56, according to the decree



on internal trade. Total 1954 investment in the trade sector (the Ministry of Internal Trade, the Central Union of Cooperatives, and Departments of Workers' Supply) was increased to 4 billion rubles, or almost 2 percent of total state investment. 30/ This figure may be compared with the level of 1948, when investment in this sector amounted to 800 million rubles, or less than 1 percent of total state investment. 31/

3. Evidence of Intentions.

The consumer industries and heavy industry were to be developed on an approximately equal basis, according to public statements 32/

Preparations in 1953 and implementation through most of 1954 indicated that the Soviet government was serious in its intention to carry out a program of dual development as announced. Evidence to this effect is provided by the plans outlined in 1953 and established in 1954, the assignments of industrial construction organizations, and the priorities in the allocation of building materials. In the late months of 1953, urgent planning for the construction of Machine Tractor Stations (MTS's) was noted. Housing construction was also accelerated during this period. 34/ In the fourth quarter of 1953, construction for the light and food industries was accelerated. 35/

Construction units usually assigned almost exclusively to heavy industry were detailed to work on aspects of the consumer goods program in 1954. Housing construction, always an important part of the work of heavy industrial construction trusts, was expanded. 36/ Construction of MTS's was performed by trusts of the construction ministries 37/ and by construction trusts of the coal, oil, and electric power industries, as well as of the Ministry of Transportation. 38/ The construction ministries were to perform work worth 1 billion rubles for the Ministry of Industrial Consumer Goods in 1954, 39/ which undoubtedly far exceeded their usual amount of work for light industry. Intention to implement this program is further shown by the allocations of building materials. As early as late 1953, some aspects of the consumer goods program enjoyed priority in such allocations. 40/



January to Ji	ine 1954 which showed	for the period from d priority for a whole industry or
for a particu		et economy for an extended or in-
1	- 4 7 7 7 7 7 7 7 7 7-	and good program.
instances. in	(QIVIQUAL INSTALIATIONS	of heavy industry received special
priority, but (shipping ord part of 1954,	the priority usually o lers) or for a short pe	overed shipment on a few naryads riod of time. Thus, in the first program had high priority both in

Between July and December 1954 the consumer goods program continued to be rated above heavy industry in the over-all priority plan. At the beginning of the 6-month period, only a few individual installations of heavy industry were given high priority, Later, a few industries as a whole or entire ministries in the heavy industry category received special priority. Undershipments to the consumer goods program which were evident during the whole of 1954 and especially in the latter part of the year, probably resulted in part from the assignment of such "spot" priorities to heavy industry. 42/

4. Difficulties of Accomplishment.

The nature of the 1954 construction program in the USSR led to a wide dispersal of resources. This dispersal is one of the major reasons given by the Soviet government for underfulfillment of its investment plan in 1954. 43/ It was also a major factor in predictions of the failure of the program by the intelligence community. The size and complexity of the 1954 construction program is roughly indicated by data on capital investment. The planned level of state capital investment in 1954 was set at 169 billion rubles, an increase of at least 15 percent over that of 1953. 44/ (In 1951, 1952, and 1953, respective increases of 12, 11, and 4 percent were made. 45/) Investment in heavy industry was to rise by 12.5 percent, in the consumer sector by about 80 percent, and in housing by about 31 percent. * 46/.

^{*} Investment in housing is included in investment totals for other sectors.



The sharpness of the rise in consumer-oriented investment and the complexity of the program (in the sense that plans for the consumer sector required a wide variety of structures, mostly small ones, at a multitude of sites) imposed a difficult task on the Soviet construction industry.

Dissatisfaction with construction performance during 1954 in branches of all sectors of the economy has been expressed in the Soviet press. 47/ The most important causes for failure to meet construction goals were identified as poor and tardy design work, delays in issuing yearly plans, weak administrative control, a multiplicity of small construction organizations, failure to utilize equipment properly, and failure to perform a steady volume of construction work through all the seasons.

Despite these general criticisms of construction performance, an important gain in labor output was made in 1954, when the declining rate of increase of the past 3 years was reversed. Table 1,* however, shows that the plan to raise output per worker between 1950 and 1955 by 55 percent will be underfulfilled by about 7 percent.

Failure to meet the planned output of building materials cannot be regarded as a major cause of shortcomings in construction work. In 1954 the Ministry of the Construction Materials Industry overfulfilled its over-all plan by 3 percent and the plan for cement production by a fraction of 1 percent. 48/ By 1954, over-all production by this ministry was 93 percent greater than in 1950, 49/ indicating that production is ahead of the rate set for the current Five Year Plan, which called for a 100-percent increase in 1955 over the 1950 level. 50/ Although numerous spot shortages of building materials in 1954 were noted, there is little evidence of any serious, broad-scale disruptions in construction work resulting from a general prolonged shortage of materials. Transportation difficulties, however, were noted as an important cause for underdeliveries of building materials in 1954. 51/

^{*} Table I follows on p. 10.

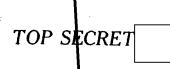


Table 1
Increases in Output per Soviet Construction Worker
1951-55

Percent

			Index
	Increase	over Previous Year	of .
	•		Actual Output
Year	Plan	Actual	(1950 = 100)
1951	N. A.	10 0 /	110.0
-		$\frac{10 \text{ a}}{-}$	110.0
1952	12 <u>b</u> /	7 <u>a</u> /	117.7
1953	N. A.	4 a./	122.4
1954	8.6 a/	8 c/	132.2
1955	9 <u>d</u> /		144. l <u>e</u> /

a. 52/

The inability to accomplish the 1954 construction program appears to have been a direct result of the ambitious nature of the program itself, although other causes undoubtedly contributed to the failure.

5. Achievements.

The 1954 construction program is marked by certain achievements. The total of real capital investment rose by 15 percent over 1953. 56/ The investment plan, however, was underfulfilled, although probably only slightly, 57/ and the over-all plan for putting new industrial capacity into operation was also underfulfilled by an unstated degree. 58/

b. $\overline{53}/$

c. $\overline{54}/$

d. $\overline{55}$

e. Based on the assumption that the 1955 Plan will be fulfilled.



The planned 12.5-percent increase in investment in heavy industry, amounting to 90 billion rubles, is estimated to have been fulfilled or very nearly fulfilled. 59/ The planned increase of about 80 percent in the consumer sector, which amounted to 39.4 billion rubles, was fulfilled by only about 83 percent. 60/ Housing investment (included in the above totals and elsewhere in the investment plan) was to increase by 31 percent to 25.5 billion rubles, but this plan was fulfilled by about 91 percent. 61/

Soviet experience in heavy industrial construction is far greater. Although large, the 12.5-percent increase in investment was far more moderate than that for the consumer-oriented sector. The large volume of heavy industrial construction and the degree to which resources can be concentrated probably facilitated the fulfillment of plans in this sector, while construction resources in the consumer sector were widely scattered.

6. Effect on Construction for Heavy Industry.

The effect of increased emphasis upon construction for the consumer sector on planned construction for heavy industry in 1954 was apparently moderate, although significant. A basic factor influencing the implementation of plans for heavy industry was the necessity for sharing manpower and materials with other sectors on an approximately equal basis.

If the imposed need to share resources had been severe, numerous and prolonged stoppages of heavy industrial construction projects would have been observed. Such stoppages did not become evident. The examples of underdelivery of building materials to projects for heavy industry, although numerous, do not provide evidence of acute conditions. The moderate impact of this need to share resources may be illustrated by examples of hydroelectric projects. Deliveries of cement and lumber fell behind schedule at a number of sites, 62/ but the plan for putting new capacity into operation was fulfilled. 63/



It is probable that schedules for the completion of projects, rather than the volume of construction for heavy industry, were affected by the emphasis on consumer goods. The unprecedented number of unfinished construction projects has been mentioned by Soviet economic leaders with apparently grave concern. 64/ The seriousness of this lag in planned construction schedules may have been exaggerated, however, in view of the announced completion or near-completion of a series of important projects in the early months of 1955. 65/

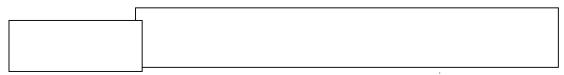
Evidence that the effect of consumer emphasis on heavy industrial construction was moderate is the fulfillment or near-ful-fillment of the investment plan. 66/ The lags in planned construction schedules are significant. The general seriousness of these lags, however, cannot be precisely determined and, as pointed out above, may have been exaggerated.

C. Return to Emphasis on Heavy Industry.

The Soviet return to an emphasis on heavy industry in 1955 is evidenced by a flood of official statements and by the character of the 1955 budget. 67/ Some positive signs of such a change were indicated by certain developments involving the construction industry in the later months of 1954. There is, however, some evidence which also indicates that the swing back to an emphasis on heavy industry has not been complete.

1. Positive Indications.

a. Early Indications.



^{*} It has been suggested that 17 August 1954 is an important date in the analysis of adjustments in Soviet economic policy because on that date the endorsement of a major economic decree by the Central Committee of the Communist Party preceded the endorsement by the Council of Ministers for the first time since Stalin's death, and since then subsequent economic measures have been at the initiation of the Communist Party rather than at that of the Council of Ministers. 68/

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reductions in capital investment in 1955. As has been noticed before, such reductions have a stronger and more immediate impact on construction than on durable capital goods. 73/ As revealed by the Soviet budget, allocations for capital investment in 1955 are slightly lower than in 1954. 74/

On 20 August 1954 a decree was issued on the development of the precast concrete industry which called for a more than fivefold increase in production between 1954 and 1957. 75/ Over 77 percent of the construction to be erected with the use of precast structural concrete was to be used directly for consumer purposes. It was implied in the decree that a number of construction projects in early stages would be deferred pending the availability of precast concrete. An additional indication that the announcement of the precast concrete program marked a turning point in the consumer goods program is provided by the adjustments in construction plans of several consumer-oriented projects, 76/ as well as adjustments in 1955 capital investment allocations. An estimated decrease of 9 percent in investment in state agriculture and an almost certain reduction for the light and food industries and trade are to take place in 1955. 77/ The second with the second and a property of the second of the second state of the second of the se

Between July and December 1954 the consumer goods program continued to be rated above heavy industry in the over-all priority plan. At the beginning of this 6-month period, only a few individual installations of heavy industry were given high priority. A few industries as a whole or entire ministries in the heavy industry category later received special priority. Undershipments to the consumer goods program which were evident during the whole of 1954, but especially in the latter part of the year, probably resulted from the assignment of such "spot" priorities to heavy industry. 78/



b. Press Discussions of Economic Policy.

In August 1954, expressions of dissatisfaction with the progress of construction for two important branches of heavy industry, iron and steel, 79/ and coal,80/ appeared in the press. In each case it was urged that construction lags be eliminated.

In the well-known discussion of the relative importance of heavy and light industry which was carried on in <u>Pravda</u> and in <u>Izvestiya</u> from 21 to 31 December the allocation of construction resources was apparently a point of issue. Two features of the Khrushchev speech to the Builders Conference, which was published in Pravda on 28 December, are discussed below.

c. Khrushchev's Speech at the Builders Conference.

Two features of Khrushchev's 7 December speech at the Builders Conference 81/ are particularly pertinent -- his emphasis on the primacy of heavy industry and his remarks on the dispersal of resources. Khrushchev's statements on the importance of heavy industry could only be interpreted by his audience as indicating a general, high priority for heavy industrial construction. His remarks on the dispersal of resources were amplified by examples of construction projects which had been prolonged. His conclusion was that a concentration of construction resources would materially reduce the duration of construction projects. Both of these points made by Khrushchev at the Builders Conference have since been embodied in current Soviet construction plans and policies.

2. Negative Indications.

Priorities in construction under way for the consumer sector were apparently not strongly affected. During the early months of 1955 there is no evidence for a sharp change in the allocations of building materials. 82/



II. Effect of the 1955 Changes in Emphasis on the Construction Industry.

The effect on the distribution of Soviet construction resources of a change from the "new course" is difficult to measure. Because projects well under way are generally continued, radical, abrupt changes in a vast construction program cannot be expected. Over a period of time, however, changes will be effected by the re-employment of resources from completed projects. Some indications of prospective change are available.

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A. Consumer Sector.

In 1955, total investment allocations for the consumer sector are considerably below the 1954 allocations, and the share of this sector in state capital investment is also to decline considerably. 83/

1. Housing.

The planned 1955 investment in housing is 24.5 billion rubles. 84/ This amount represents an increase of 6.5 percent over the actual level of 1954 85/ but a decline of 4 percent from the 1954 plan level. 86/

2, 5

A valid comparison of these levels cannot be made, because the degree of fulfillment of the 1955 housing plan cannot be precisely estimated. If it is assumed, however, that the plan was fulfilled 100 percent, it follows that the 6.5-percent increase represents a significant decline from recent rates of growth of housing investment, which were 11 percent in 1953 87/ and 19 percent in 1954. 88/

2. Agriculture.

Investment in state agriculture in 1955 is estimated to be about 9 percent less than the amount planned for 1954. 89/ Investment for the development of sovkhozes runs counter to the trend

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for agriculture as a whole. Allocations for this purpose amounted to 6.6 billion rubles, an increase of 25 percent over the 1954 level. 90/Construction by August 1957, of over 2,000 kilometers of narrow-gauge and about 400 kilometers of broad-gauge railroad lines has been planned as part of the new lands program. 91/Priorities in the allocation of materials for construction in the new lands provide additional evidence of the importance of this program. 92/

3. Light and Food Industries.

The investment allocations for the light and food industries were not specified in the 1955 Soviet budget. It is estimated, however, that investment in these industries in 1955 will be considerably below the 1954 planned level. 93/

4. Trade.

As in the light and food industries, 1955 planned investment in trade is estimated to have been considerably below the 1954 planned level. 94/

B. Heavy Industry.

Investment in heavy industry in 1955 will be 93.5 billion rubles, and its share of total investment will be 57 percent, compared with its share of 54 percent in 1954. 95/ The increase of planned investment in heavy industry in 1955 is to be only about 4 percent. 96/ Construction in support of the current investment plan for heavy industry is to be concentrated on projects in the final stages of completion. * 99/ Meanwhile, Soviet policy calls for a

^{*} A construction project in the final stages of completion is referred to by the term puskovoy ob"yekt. This term is defined as "a project scheduled to be put into operation during a given planning period." 97/Because this is the final year of the Fifth Five Year Plan, any current reference to this term almost certainly signifies the intention to complete the project involved by the end of 1955. Minister of Finance Zverev, in his recent budget speech, used the term puskovaya stroyka when he was discussing the concentration of construction resources in 1955. 98/ This term is almost synonymous with puskovoy ob"yekt.



restriction on the number of new construction projects in order that the projects started may be completed in minimum time periods. 100/

The portion of construction expenditures in the total investment in heavy industry (93.5 billion rubles) cannot be accurately estimated. The possibility suggested by the foregoing data, however, that the relative importance of construction in heavy industry investment is declining will be examined in this section.

1. 1955 Construction Targets.

The 1955 targets for heavy industry construction and the measures adopted to ease their attainment have been made abundantly clear in Soviet announcements.

a. Concentration of Construction Effort.

The policy to be followed by the construction industry in 1955 was clearly defined in the budget speech of Finance Minister Zverev. His key statement was as follows:

The USSR Government has deemed it necessary in 1955 to concentrate monetary and material resources, as well as manpower, on the most important enterprises about to be commissioned, and not to permit the dispersal of capital investments, in order to assure unconditionally the commissioning of projects provided for in the plan. 101/

That heavy industrial construction is to be the focal area for this concentration of effort is clearly indicated by the tenor of Zverev's speech. This emphasis within the heavy industry sector in 1955 is most likely to be placed on plants which produce industrial materials and electric power. The ministries which were reported to have a particularly large volume of unfinished construction (either in monetary terms or in terms of the number of projects) are those



for the petroleum, coal, electric power, ferrous metallurgical, and nonferrous metallurgical industries. 102/ In the same address, Zverev revealed that the volume of unfinished construction of plants and of housing had risen significantly by the end of 1954. 103/

b. Restrictions on the Initiation of New Projects.

Current Soviet policy also calls for a reduction of the total number of new construction projects. The Soviet government expects to facilitate the earliest possible completion of the projects that are started by concentrating its construction resources. This policy has been stated directly or indirectly by top Soviet leaders (Khrushchev and Zverev) as well as by speakers at the Builders Conference. 104/ An elaborate exposition of this policy is in an article in the Soviet construction newspaper, Stroitel'naya gazeta, dated 21 January 1955. It is made clear that restrictions on new construction apply to heavy industrial construction. Examples of the desired time limitations for the construction of specific types of installations were given. All but one of the examples were plants for heavy industry. 105/

2. Status of Known Projects.

Tables 2, 3, and 4* indicate that, for the industries surveyed, ** most large projects will have been completed by the end of 1955 or soon after. As noted earlier, hydroelectric construction is the major exception. Another exception is to be found in the construction of new coal mines. In addition, an undetermined volume of construction at three metallurgical centers*** will be carried over into the Sixth Five Year Plan. ****



^{*} Table 2 follows on p. 19; Table 3, on p. 21; and Table 4, on p. 23.

** The tables cover the petroleum, coal, iron and steel, electric power, and chemical industries; part of the defense industry; and most of the machine-building industries. The coverages vary in completeness.

^{***} Located at Unerepovets, Novotroitsk, and Kerch. Because of imprecise information on actual accomplishments or present plans, the completion dates of these plants are not estimated.

**** Continued on p. 26.

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Table 2

Soviet Construction Projects for Heavy Industry Known to Have Been Completed in 1954 and 1955

of Completion		ic July 1954 106/		December 1954 107/		January 1955 108/			January 1955 109/	July and later 110/	in 1954	. April 1955 111/		August 1955 112/	I	End of 1954 113/		Early 1955 114/	
Size of Project (Planned)		400,000-metric ton		N.A.		N. A.		•	N. A.	N. A.		N.A.		N. A.		N. A.		N. A.	
Location	•	Angarsk, Irkutsk Oblast		Magnitogorsk, Chelyabinsk Oblast		Dneprodzherzhinsk, Ukrainian SSR			Novotroitsk, southern Urals	Rustavi, Georgian SSR		Rustavi, Georgian SSR		Cherepovets, Vologda	Oblast	Dashkesan Iron Ore Mine,	Azerbaydzhan SSR	Chelyabinsk, Chelyabinsk	Oplast
Industry and Type of Project	Petroleum Industry	Synthetic fuels plant (first section)	Iron and Steel Industry	Blast furnace, two open- hearth furnaces, and	other installations	Blast furnace, three open- hearth furnaces, addi-	tional unnamed instal-	lations a/*	Blast furnace	Blast furnace No. 1,	and other installations	Blast furnace No. 2,	and other installations	Blast furnace No. 1	and other installations	Two ore concentration	plants	Rolling mill, type "300"	

* Footnotes for Table 2 follow on p. 20.

19.

Table 2

Soviet Construction Projects for Heavy Industry Known to Have Been Completed in 1954 and 1955 (Continued)

Industry and Type of Project	Location	Size of Project (Planned)	Date or Degree of Completion
Iron and Steel Industry (Continued)			
Pipe mill, type "250" and several open-	Sumgait, Azerbaydzhan SSR	N. A.	Second half 1954 115/
hearth furnaces Two electric furnaces	Zestafoni Ferroalloy Plant" Georgian SSR	Probably small	November 1954 116/
Chemical Industry			
Nitrogen chemical plant	Rustavi, Georgian SSR	N. A.	April 1955 117/
Electric Power Industry <u>b</u> /			
Hydroelectric station Hydroelectric station Hydroelectric station	Mingechaur, Kura River Tsimlyansk, Don River Kama, Kama River	372,000 kw c/ 160,000 kw c/ 504,000 kw c/	In 1954 118/ In 1954 119/ Six of 24 turbines installed in 1954 120/

See Table 3, p. 21, below.

Estimates of the capacities of the hydroelectric stations are based, in some cases, on prewar data. These estimates are intended only to show the relative magnitudes of the construction. ъ,

[.] Planned or estimated eventual capacity.

Soviet Construction Projects for Heavy Industry Scheduled or Estimated for Completion in 1955

Industry and Type of Project	Location	Size of Project	Date or Degreed of Completion	Į
Petroleum Industry		-		
"Many industrial projects"			To be completed in 1955 121/	
Iron and Steel Industry				
Blast furnace No. 2, 2 coke batteries	Cherepovets, Vologda Oblast	N. A.	By end of 1955 122/	\
and municipal facilities	Dneprodzerzhinsk, Ukrainian	Ä.A.	1955 123/	
stallations" a/* Tinplate mill	Magnitogorsk, Chelyabinsk	Large	Partial completion in 1955 124/	
Sheet-rolling mill	Voroshilovsk, Ukrainian SSR	N. A.	August 1955 125/	
Chemical Industry				

Completion in 1955 128/

1955 126/

Z. A.

Phosphate fertilizer plants Estonian SSR, Ukrainian SSR,

and Uzbek SSR Bryansk Oblast

Phosphorite mine

Coal Industry

N.A

1955 127/

2.

* Footnotes for Table 3 follow on p. 22.

One hundred and fiftythree new shaft mines Soviet Construction Projects for Heavy Industry Scheduled or Estimated for Completion in 1955 (Continued)

Date of Degree of Completion		2, 100, 000 kw $\frac{c}{c}$ Partial completion by the end of 1955 129/	Partial completion by the end of 1955 130/	Partial completion by the end of 1955 131/	Additional units to be installed in 1955 132/	Completion 133/	40,000 kw b/ Completion in 1955 134/	Partial or full completion	in 1953 135/ Dartial or full completion	in 1955 136/
Size of Project		2, 100, 000 kw c/		400,000 kw c/	504,000 kw c/	Z.A.	40,000 kw b/	N. A.	50.000 to	ان
Location		Kuybyshev, Volga River	Kakhovka, Dnepr River	Gor'kiy, Volga River	Kama, Kama River	Narva, Narva River	Dubossary, Dnestr River	Gumat, Rion River,	Veorgian SSA Karabakh, Azerbavdzhan	SSR
Industry and Type of Project	Electric Power Industry b/	Hydroelectric station	Hydroelectric station	Hydroelectric station	Hydroelectric station	Hydroelectric station	Hydroelectric station	Hydroelectric station	Hydroelectric station	

Program to expand a number of existing plants at a planned investment cost in 1954 and 1955 of 750 million rubles to be completed by 1955. 137/

Tractor Industry

200

See Table 2, p. 19, above.

Estimates of the capacities of the hydroelectric stations are based, in some cases, on prewar data. These estimates are intended only to show the relative magnitudes of the construction. c. Planned or estimated eventual capacity.

Scheduled or Estimated for Completion in 1956 or Later Soviet Construction Projects for Heavy Industry

Table 4

Industry and Type of Project	Location	Size of Project (Planned)	Date or Degree of Completion	
Petroleum Industry				
Synthetic fuels plant (second section) a/*	Angarsk, Irkutsk Oblast	400,000 metric	By the end of 1956 138/	
Lubricating oil refining facilities	Baku	N. A.	Possibly by the end of 1956 139/	
Chemical Industry		·		
Synthetic rubber plant	Usol'ye-Sibirskoye, Irkutsk Oblast	N. A.	Possibly by the end of 1956 140/	•
Iron and Steel Industry				
Tinplate mill and prob- ably other unspecified installations	Magnitogorsk, Chelya- binsk Oblast	N. A.	Mid-1956 141/	
Coal Industry b/ Electric Power Industry c/				
Hydroelectric station	Kuybyshev, Volga River	2,000,000 kw	Additional installations to be completed in 1956	
Hydroelectric station	Kakhovka, Dnepr River	250,000 kw	Completion in 1956	
* Footnotes for Table 4 follow	ow on p. 25.			

- 23 -

Soviet Construction Projects for Heavy Industry Scheduled or Estimated for Completion in 1956 or Later (Continued)

dustry c/		Kama, Kama River 504,000 kw C Gor'kiy, Volga River 400,000 kw C Ladzhanur, Ladzhanur N.A. C	River 1956 142/ tation Stalingrad, Volga River 1,700,000 kw Partial completion scheduled	Irkutsk, Angara River 600,000'kw P	Novosibirsk, Ob' River 145/ N. A.	Bukhtarma, Irtysh River 600, 000 kw Kopchagay, Ili River 300, 000 kw	Bratsk, Angara River 2, 500, 000 kw 148/	Votkinsk, Kama River 149/ N. A.	Kremenchug, Dnepr River 300,000 kw 151/	Dar'yal', northern Caucasus 220,000 kw 195	Vartsikhe, Georgian SSR	Chu Group, Chu River 154/ N.A.	Tokmak Group, Chu N. A.	River 155/
	Electric Power Industry c/ (Continued)	Hydroelectric station Hydroelectric station Hydroelectric station	Hydroelectric station	Hydroelectric station		Hydroelectric station Hydroelectric station				Hydroelectric station	Hydroelectric station	Hydroelectric station	Hydroelectric station	

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Soviet Construction Projects for Heavy Industry Scheduled or Estimated for Completion in 1956 or Later (Continued)

Industry and Type of Project	Location	Size of Project (Planned)	Date or Degree of Completion
Electric Power Industry c/ (Continued)			
Hydroelectric station	Cheboksary, Volga River 156/	N. A.	N.A.
Hydroelectric station	Kara Kum, Syr Dar'ya River	100,000 kw 157/	N. A.

a. See Table 2, p. 19, above.

b. See discussion of the coal industry, p. 26, below.

Estimates of the capacities of the hydroelectric stations are based, in some cases, on prewar data, These estimates are intended only to show the relative magnitudes of construction.



Construction for the coal industry will be both expanded and accelerated in 1955 and 1956. In these 2 years, 180 mines and open-face workings are to be commissioned, according to a statement of November 1954. * 160/ Late in August 1954 the coal industry was attacked for persistently lagging in the introduction of new capacity and it was urged that this lag be overcome in the shortest time possible. 161/ There is some evidence that additions have been made to previous plans for the construction of mines and other installations in the next 2 years. It was stated late in November 1954 that scores of new mining industry enterprises in excess of the plan were then being built in the old as well as in newer coal areas and that 30 additional mines were to be put into operation in Volyn' Oblast and in the Voroshilovgrad and L'vov areas in 1955 and 1956. 162/ Another indication of the acceleration of the construction for coal mines is contained in decree of early November 1954. The Ministry of the Construction Materials Industry was to guarantee full shipments to the Ministry of the Coal Industry on the fourth-quarter plan as well as to make up undershipments of the first 9 months of 1954. The Ministry of Transportation was to supply cars for this purpose on a first-priority basis. 163/

The 1955 Plan for the completion of new mines has been expressed twice, each time in different terms. In October 1954 it was stated that two-thirds of the mines under construction would be completed by the third quarter of 1955, 164/ possibly indicating that 120 out of 180 would be in operation by that date. In May 1955 it was stated that 153 new shaft mines were to be completed in 1955. 165/ Accomplishment of the latter plan would leave only 27 mines for completion in 1956, provided the goal of 180 new mines in 1955 and 1956 remained unchanged.

The part played by construction in the expansion of the machine-building industries** during the course of the Fifth Five Year

^{*} For purposes of comparison, it should be noted that about 146 new mines were opened from 1951 to 1954, 158/100 of them in 1954 alone. 159/
** Included in this survey were the automotive, agricultural machinery, railroad equipment, machine tool, construction equipment and machinery, and heavy machine-building industries.



Plan has apparently been relatively unimportant.* Known construction activity has been confined to the enlargement of existing plants. There is no evidence of the initiation of construction of any large new machine-building plants in recent years.

Announcements of plans for some of the industries provide some indication of the volume and status of construction in this sector. Investment in 1954 and 1955 for completing the construction of existing plants in the tractor industry was to have amounted to 750 million rubles. 166/ Expansion of specific agricultural machinebuilding plants was scheduled, probably for the same period. 167/ Some expansion of construction equipment plants is being undertaken in support of the precast concrete industry. 168/

Observations of construction for the machine-building industries fail to indicate a high level of activity. There has been no major new construction for the automotive industry during the Fifth Five Year Plan. Some of the construction started in the Fourth Five Year Plan, however, has been completed during the present plan. 169/ There has been no indication of extensive construction or of completely new plants going up for other sections of the machine-building industry similar to the available indications of construction for the electric power, iron and steel, and petroleum industries.

The status of industrial construction for the nuclear energy program is extremely difficult to evaluate. The lack of any evidence to show that new industrial centers for this program have been started since 1950 indicates that the establishment of municipalities is probably well advanced. It is possible, therefore, that there has been a decline in the requirements of resources for building construction in the nuclear energy program.

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^{*} Capital investment may have remained at a high level during this period, with equipment purchases absorbing most of the allocations.



Expansion of 7 existing aircraft plants has been observed in recent years, and it is believed that most of the construction will be completed by the end of 1955. 170/ Construction at aircraft plants is known to have had the highest priority at least during the summer of 1955. 171/

The finding that most large industrial projects of the Fifth Five Year Plan will have been completed by the end of 1955, which is based on the specific and general information in Tables 2, 3, and 4* and the above discussion, is supported by the Fifth Five Year Plan and by the observation that the initiation of new long-term industrial projects was limited during the current plan period. An apparent contradiction of this finding is suggested by the grave concern of the Soviet government over the big carryover of unfinished construction from 1954. 172/

This concern was probably exaggerated, however, as is evident from the situation in 3 industries which were cited as having a large amount of unfinished construction work at the end of 1954. Completion or near-completion of some of the major installations** under construction for the Ministry of Ferrous Metallurgy was accomplished in the early part of 1955. Lags in the construction schedules of the petroleum industry are also probably not serious, which is indicated by the current goal of early completion of the Five Year Plan for the development of this industry. 173/ In the coal industry, 100 new shaft mines were completed in 1954 out of a total of 115 which had been scheduled for completion. 174/

C. Construction Industry.

The changes that have occurred in the Soviet construction program and a new approach to the solution of construction problems will probably have the effect of facilitating the achievement of the goals set for the construction industry. For the most part, these changes will be effective through the better part of 1955.

^{*} Pp. 19, 21, and 23, above.

^{**} At Dneprodzherzhinsk, Novotroitsk, Rustavi, and Chelyabinsk.

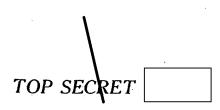


1. Number of Projects.

The concentration of construction resources on a limited number of projects will result in an appreciable saving in the time needed for the completion of each one. The Soviet expectation is that construction by "industrial methods" will increase the over-all efficiency of construction work. 175/ As a result of the concentration of resources on projects nearing completion 176/ and the restricted initiation of new projects, 177/ the total number of projects in 1955 will probably be substantially less than the number under way in 1954. The logic of this conclusion is supported by the recent suspension or curtailment of several projects 178/ and by the need to defer certain projects that was implied by the decree on the development of the precast concrete industry. 179/

The objective of saving time is probably the primary consideration in the decision to restrict the initiation of new projects. This objective is illustrated by a comparison of the time the Soviet government intends to devote to a particular project and the time that actually has been devoted to a similar project. It is stated that an integrated steel mill with 2 blast furnaces should be built in from 2 to 2-1/2 years. 180/ Construction of the Rustavi mill, which fits this description, will have required 10 years. 181/ The two examples may be extreme because the desired time period is probably optimistic and because the Rustavi project may not be typical of Soviet construction. It is nevertheless clear that the seemingly excessive time requirements for construction projects in the USSR could be further reduced by the simple expedient of concentrating construction resources.

A limitation of the number of projects would lead the Soviet government to expect increased efficiency in construction by an increased intensification of capital. The availability of construction equipment and machinery has risen sharply in the course of the current Five Year Plan, but frequent complaints have been made of underutilization. 182/ The installation of new productive capacity for precast concrete will add to the possibility of still more intensive use of mechanization in construction. By a further mechanization





of construction and a concentration of resources at a limited number of sites the Soviet government expects to achieve a significant reduction in monetary outlays, which will have their most important expression in terms of the savings in manpower. Alternatively, this saving would enable the USSR to produce a higher volume of construction with the same levels of labor inputs.

2. Ministerial Structure for Control.

The completion of the most urgent construction tasks in 1955 will be facilitated by the recent strengthening of centralized administrative control over the Soviet construction industry. 183/

In April 1954, responsibility for construction was diffused throughout the economy. Construction work was then performed by the Ministry of Construction and by construction units in most of the production ministries. Currently there are seven ministries responsible for construction in particular sectors or branches of the economy. The functions of these ministries will undoubtedly be coordinated at a superministerial level by V. A. Kucherenko, a recently appointed deputy premier of the Council of Ministers and head of the State Committee on Construction Affairs. 184/

Construction ministries now are responsible for work in most of the branches of heavy industry and transportation, for work in agriculture, and for civil construction projects. In heavy industry, five such ministries are essentially responsible for construction in the areas of machine building, defense, iron and steel, nonferrous metals, chemicals, electric power, petroleum, and coal. 185/ The Ministry of Transport Construction is responsible for the construction of railroad lines and of ports, harbors, and related facilities for the maritime and river fleets. 186/

Sovkhoz and MTS construction is the responsibility of the Ministry of City and Rural Construction. 187/ Civil construction is also the responsibility of the Ministry of City and Rural Construction. 188/





The responsiveness of the construction industry to the needs dictated by Soviet economic policy will undoubtedly improve as a result of these tighter centralized controls. Stricter, better unified allocation of manpower, materials, and equipment can be expected. Improved planning of construction work for the economy as a whole as well as for individual projects will probably result. Adjustments in plans during the course of a planning period could be achieved much more smoothly.

3. Program for Precast Concrete.

The rapid development of the precast concrete industry will have an increasing impact on the over-all Soviet construction industry. The importance of precast concrete is reflected by the percentage of the total cement output that will be required. In 1955, over 4 percent will be used in the manufacture of precast concrete. This portion will rise to about 11 percent by 1957. 189/ The planned output of precast structural concrete and parts is to be almost 10 million cubic meters in 1957, or more than a fivefold increase in the scheduled expansion program. 190/ Important savings in manpower, steel and lumber, and transportation will result from this increased utilization. 191/

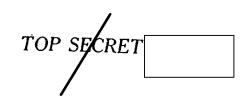
The plans outlined in August 1954 called for the use of at least 77 percent of the output of precast concrete in consumer-oriented construction such as housing and agriculture. 192/ It now appears that efforts are being made to adapt this fabricated material more extensively to construction for heavy industry. 193/

Although the program for precast concrete was slow to get under way, efforts to implement it were increased. 194/ A recent report indicates that the production of precast concrete in 1955 will be greater than planned. 195/

4. Construction as a Factor in Economic Mobilization.

The Soviet construction industry requires enormous amounts of manpower, materials, and transportation. With the





completion of most of the larger construction projects of the current Five Year Plan, the Soviet capability to move in the direction of economic mobilization is being enhanced. Construction resources could be re-employed in direct or indirect support of an increased military effort.

Although there is evidence that preparations are being made to expand the volume of construction in 1956-60, 196/ there is as yet no evidence that the Soviet construction industry has been committed to a large, long-term program.

APPENDIX

SOURCE REFERENCES

Press discussion of policies and problems relating to the Soviet construction industry has been continuous and abundant. Details of a number of hydroelectric projects have also been revealed. The press has become an increasingly valuable source of information on construction for heavy industry, with summaries of problems in branches of industry and material on specific projects. Even in the most recent period, however, much of the information on specific projects has been in connection with the completion or near-completion of the projects.

Evaluations, following the classification entry and designated "Eval.," have the following significance:



Source of Information

Information

Doc. - Documentary

- A Completely reliable
- B Usually reliable
- C Fairly reliable
- D Not usually reliable
- E Not reliable
- F Cannot be judged

- 1 Confirmed by other sources
- 2 Probably true
- 3 Possibly true
- 4 Doubtful
- 5 Probably false
- 6 Cannot be judged

"Documentary" refers to original documents of foreign governments and organizations; copies or translations of such documents by a staff officer; or information extracted from such documents by a staff officer, all of which may carry the field evaluation "Documentary."

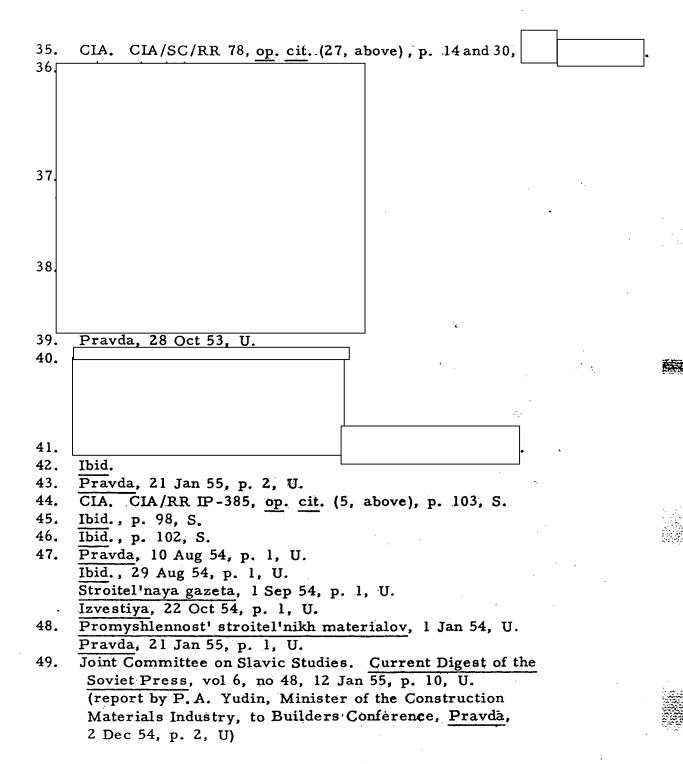
Evaluations not otherwise designated are those appearing on the cited document; those designated "RR" are by the author of this report. No "RR" evaluation is given when the author agrees with the evaluation on the cited document.

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